

**Aerosols, Clouds, Precipitation and Climate (ACPC) Workshop, 3 – 6 April 2018**  
**University of Colorado, Boulder**

**Programme**

Please note: Except for the overview talks and the work performed in ACPC collaboration, we request short discussion contributions only, 10 min each.  
(Supplementary posters are welcome, 22 x 28 in<sup>2</sup> / 56 x 71 cm<sup>2</sup>).

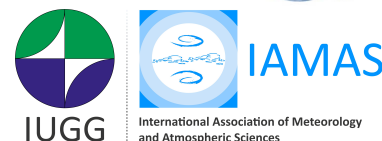
Tuesday, 3 April 2018

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|---------|---|
| 18:00 h | Buffet supper   |
|         | Opening session   |
| 20:00 h | Opening (Graham Feingold / Megan Melamed /<br>Danny Rosenfeld / Johannes Quaas) |
| 20:30 h | Interaction with GAP (Sue van den Heever / Philip Stier)                        |

Wednesday, 4 April 2018 – deep clouds

(chair persons and notetakers: Bethan White, Peter Marinescu, Jiayi Hu)

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|---------|--|
|         | Deep clouds session: Observations  |
| 9.00 h  | Fridlind, Ann – Observations overview  |
| 9.20 h  | Hu, Jiayi: Observations of possible impacts of CN vs. CCN on cloud invigoration and electrification in the Houston area  |
| 9.30 h  | Collis, Scott: How many isolated convective cells will we see in Houston in a month? Designing an experiment using automated cell tracking                       |
| 9.40 h  | Oue, Mariko: Capabilities and uncertainties of polarimetric measurements and vertical velocity retrievals: An investigation using a radar simulator              |
| 9.50 h  | Snyder, Jeff: Increasing Radar Sensitivity: What We Can Do to Maximize Our Odds of Detecting Subtle Differences in Precipitation Characteristics and Processes   |
| 10.00 h | Coffee   |
| 10.30 h | Ryzhkov, Alex: A novel method for ice microphysical retrievals using polarimetric radar  |
| 10.40 h | Sinclair, Kenneth: Polarimetric Retrievals of Cloud Droplet Number Concentrations: Forward Modeling and Observational Results NASA/GISS                          |
| 11.00 h | Discussion   |
| 12.00 h | Lunch  |
|         | Deep clouds: Model studies   |
| 13.30 h | Sue van den Heever – Simulations overview  |
| 14.00 h | Heikenfeld, Max; Marinescu, Peter; White, Bethan: Microphysical aerosol effects in tracked convective cells in RAMS and WRF for the Houston deep convective case |
| 14.25 h | Fan, Jiwen: Substantial convection and precipitation enhancements by ultrafine aerosol particles and relevance to field experiment over Houston                  |
| 14.40 h | Grabowski, Wojtek: Contrasting impacts of aerosols with effects of meteorology in simulations of deep convection   |



## Preliminary – Subject to Change

14.50 h	Barrett, Andrew: Why the choice of model timestep is confusing aerosol-cloud-convection modelling study results
15.00 h	Shpund, Kobby: Isolated deep convection simulated using a new version of spectral-bin microphysics
15.10 h	Discussion
15.30 h	Coffee
	Deep clouds: Tracking
16.00 h	Coopman, Quentin: Analysis of thermodynamic phase transition by cloud tracking
16.10 h	Deckers, Daniel: Exploring resolution requirements for tracking simulated cumulus thermals
	Deep clouds: Plans
16.20 h	Jensen, Michael: ARM deployment plans
16.50 h	Rosenfeld, Daniel: Vision and Next steps on deep cloud analyses
17.20 h	Discussion

### Thursday, 5 April 2018 – shallow clouds

(chair persons and notetakers: Franziska Glassmeier, Tom Goren, Takanobu Yamaguchi)

9.00 h	Rob Wood – Shallow working group overview
9.30 h	Gordon, Hamish: Smoke interacting with clouds in the south-east Atlantic: representing CLARIFY case studies with the Unified Model
9.40 h	Andy Ackerman/Ann Fridlind: Lagrangian analysis of ORACLES-1 data using GEOS5, SEVIRI and in situ measurements for LES case study development
9.50 h	Goren, Tom: Evidence for impeded breakup of decoupled precipitating Marine Stratocumulus
10.00 h	Kazil, Jan: Boundary layer clouds and biomass burning aerosol – towards realistic Lagrangian large eddy simulations
10.10 h	Discussion
10.30 h	Coffee
11.00 h	Sudhakar, Dipu: Role of cloud microphysics parameterization on cloud liquid water path sensitivity to droplet number concentration in marine stratocumulus clouds
11.10 h	Vogel, Bernhard: Aerosol impact on low level clouds above South West Africa
11.20 h	Hoffmann, Fabian: Particle-Based Cloud Microphysics for Investigating Entrainment and Mixing in Shallow Convective Clouds
11.30 h	Yamaguchi, Takanobu: Stratocumulus to cumulus transition by drizzle
11.40 h	Discussion
12.30 h	Lunch
	Shallow clouds: precipitation susceptibility
14.00 h	Interaction with GASS (Xubin Zeng, U Arizona, Tucson)
14.20 h	Douglas, Alyson: Determining the environmental controls on precipitation suppression in warm clouds
14.30 h	Glassmeier, Franziska: Analytical calculations of precipitation susceptibilities
14.40 h	Wang, Minghuai: Precipitation frequency and its susceptibility to aerosols in observations and climate models
14.50 h	Discussion
15.10 h	Coffee

## Preliminary – Subject to Change

	Shallow clouds: datasets
15.40 h	Glenn, Ian: Mutual Information Analysis of Aerosol-Cloud Interactions during LASSO
15.50 h	Muelmenstaedt, Johannes: Novel satellite datasets: surface latent heat flux, cloud subadiabaticity, and cloud base height
16.00 h	Suzuki, Kenta: Dichotomy between process-oriented and energy-based constraints on aerosol indirect forcing
16.10 h	Wood, Robert et al.: Vision and Next steps on shallow clouds
16.40 h	Discussion
19.00 h	SSC meeting

### Friday, 6 April 2018 – next steps

9.00 h	Report by Notetakers: Deep and Shallow discussions
9.40 h	Discussion
10.30 h	Coffee
11.00 h	Planning for next steps
12.00 h	End of meeting